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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,778	02/06/2002	Mark R. Hansen	077077-9142-00	3583

7590 12/02/2004
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EXAMINER

CRENSHAW, MARVIN P

ART UNIT	PAPER NUMBER
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2854

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/071,778

Applicant(s)

HANSEN ET AL.

Examiner

Marvin P. Crenshaw

Art Unit

2854



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on the amendment filed on 10/01/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 4, 14 - 16 and 20 - 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 - 4 and 21 - 32 is/are allowed.
- 6) ☒ Claim(s) 14 - 16 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to:
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Allowable Subject Matter

Claims 1 – 4 and 21 – 32 are allowed.

The following is an examiner's statement of reasons for allowance:

With respect to claim 1, the prior art does not teach or render obvious the total combination as claimed including an image processing system for a printing press comprising a binary correlator implemented in hardware that operates on a plurality of pixel data values that are each in a single bit and is adapted to locate register marks on the paper substrate.

With respect to claim 21 and 29, the prior does not teach or render obvious the total combination as claimed including an image processing system including a binarizer for converting data values to corresponding single bit values according to a binarization level and a binary correlator using the single bit values and operating to locate register marks on the imprinted substrate with respect to the circumferential direction on start up of the press.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14,15, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sainio et al. in view of Newton.

Sainio et al. teaches a color registration control system (10) for a printing press having thereon a moving paper (12) substrate, said system comprising an area scanner (36) for acquiring an image of the paper substrate and an image processing system (32) adapted to receive the image and process the image to determine an color register error.

However, Sainio doesn't teach the image processing system includes a hardware-based correlator adapted and implemented on at least one FPGA.

Newton teaches an image processing system includes a hardware-based correlator and implemented on at least one FPGA (See paragraph 0020).

It would have been obvious to modify the color registration system of Sainio et al. to have a binary correlator implemented on a FPGA as taught by Newton to use an efficient way to process the image for color.

With respect to claim 20, Sainio teaches a color registration control system (10) for a printing press having thereon a moving paper substrate (12) and having a replaceable

image processing subsystem (32), said control system comprising a scanner (36) for acquiring an image of the paper substrate, and an image processing system adapted to receive the image and process the image to determine any color register error.

However, Sainio doesn't teach wherein said image processing subsystem is implemented on at least one FPGA, and wherein when it is desirable to change the image processing subsystem, said at least one FPGA is suitably re-programmed.

Newton teaches a processing subsystem implemented on at least one FPGA, and wherein when it is desirable to change the image processing subsystem, said at least one FPGA is suitably re-programmed (See paragraph 0032).

It would have been obvious to modify the color registration system of Sainio to have an image processing system implemented on at least one FPGA as taught by Newton to have an efficient processor for calculating the color misregistration.

Response to Arguments

Applicant's arguments filed 10/01/2004 have been fully considered but they are not persuasive. Specifically, Sainio teaches the claimed matter of having a hardware based binary correlator. Also, Newton has been added to teach having at least one FPGA implanted in hardware.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marvin P. Crenshaw whose telephone number is (571) 272-2158. The examiner can normally be reached on Monday - Thursday 7:00 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



MPC
November 22, 2004



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